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Anxiety, Substance Use, and Their Co-Occurrence: Advances in Clinical Science

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Abstract

Research and clinical literatures are replete with examples that psychological disorders are related to drug use, abuse, and dependence. The preponderance of scientific work addressing relations among psychopathological processes and drug use, abuse, and dependence has been focused primarily on psychotic disorders, major depression, antisocial personality disorder, and attention deficit hyperactivity disorder. This corpus of empirical work has indicated that there are clinically meaningful relations among particular types of psychopathology and the onset and maintenance of substance use behaviors and disorders and, in turn, that substance use and use-related problems can impact vulnerability for psychopathology. Within this public health context, it is striking that despite the fact that anxiety disorders are one of the most common classes of psychological problems (Kessler et al., 2005), there has been limited programmatic study of the relations between anxiety vulnerability processes and substance use disorders.

Keywords

anxiety; stress; tobacco; marijuana; substance use disorders; psychiatric comorbidity/co-occurrence

The primary purpose of the present special series is to provide a forum for the systematic presentation of theory, empirical evidence, and directions for future work as it pertains to anxiety vulnerability processes and drug and alcohol problems. To accomplish this aim, articles were selected to highlight a range of research on topics dealing with anxiety and drug/alcohol-related problems. Whereas most past work dealing with these topics has largely focused on issues involved with psychiatric co-occurrence or multimorbidity, the articles in this series collectively suggest focusing on *vulnerability processes*, and the contexts in which they operate is a particularly valuable and promising pursuit. Additionally, rather than focusing on only basic or applied research, the present series includes articles that cover issues relevant to both areas of work and, in so doing, helps elucidate the importance of translating research issues and ideas involved with work in this arena.

Together, by covering a range of issues interconnected by their focus on understanding anxiety and stress vulnerability processes in relation to drug- and alcohol-related problems, it is hoped that this issue will (a) alert readers to the significance of this work at different levels of analysis; (b) illustrate the many domains currently being explored via innovative approaches; and (c) identify fecund areas for future systematic study. As is exemplified by the contributions to this special series, there is strong theoretical and empirical evidence that anxiety and stress-related vulnerability processes negatively impact the nature and progression of substance use problems and, additionally, that drug and alcohol use negatively affect anxiety and stress-related processes (i.e., bidirectional negative effects).

To provide a synopsis of the material covered in the articles, a brief overview of each article is now presented along with a discussion as to how they relate to the theme of this special series. In the lead article, Terlecki, Buckner, Larimer, and Copeland (in press) present data on the impact of social anxiety for patients undergoing Brief Alcohol Screening and Intervention for College Students (BASICS). They found that patients with higher social anxiety reported higher baseline alcohol consumption (typical drinks, weekly quantity, and frequency) as well as heavier typical drinks at posttest, even after controlling for referral status, baseline typical drinks, and trait anxiety. This study provides convincing data that elevated anxiety can have a deleterious effect on this alcohol treatment and that patients with higher social anxiety may benefit from social anxiety-specific interventions during BASICS.

In the second article, Buckner, Proctor, Reynolds, Kopetz, and Lejuez (in press) focus on cocaine use and its disorders. The primary aim of the investigation was to evaluate whether the cognitive vulnerability of anxiety sensitivity (AS) was related to cocaine dependence among a sample of drug users enrolled in residential treatment. Results demonstrated that AS was significantly related to cocaine dependence (even after controlling for other substance dependence and demographic and psychiatric comorbidity variables). These data highlight that people with high AS may be vulnerable to drug-related problems even among those drugs that are not necessarily characterized by anxiolytic properties.

In the third article, Metrik, Kahler, McGeary, Monti, and Rohsenow (in press) employed an experimental paradigm to explore changes in negative affect following delta-9-tetrahydrocannabinol (THC) administration. In a 2 (instructional set: told THC vs. told no THC) \times 2 (drug administration: smoked marijuana with 2.8% THC vs. placebo) between-subjects design, they examined the pharmacologic effect of marijuana on physiological and subjective stimulation, subjective intoxication, and self-reported negative and positive affect among 114 weekly marijuana smokers. Anxiety increased after smoking marijuana for those who were told they would receive placebo but decreased among other participants. Furthermore, marijuana users who expected more impairment from marijuana displayed more anxiety after smoking marijuana, whereas those who did not expect impairment became less anxious after marijuana. These findings show that expectations about marijuana's effects and pharmacology play independent roles in effects of marijuana on anxiety.

In the fourth article, Ham, Zamboanga, and Bacon (in press) extended work on social anxiety and alcohol outcome expectancies (AOE) among young adults by testing whether AOE specific to three drinking contexts would moderate the association between social anxiety and hazardous drinking. Results showed that AOE about convivial contexts (e.g., at a party), but not AOE about coping (e.g., when sad) or intimate (e.g., on a date) contexts, moderated the association between social anxiety and hazardous drinking. This study highlights the importance of considering contextual factors related to substance use and anxiety.

Mathew, Norton, Zvolensky, Buckner, and Smits (in press) extended work on panic attacks and substance use in a study addressing whether specific symptoms of panic may differentiate those who do from those who do not use cigarettes or alcohol. Participants who reported a history of panic attacks were significantly more likely to report current daily or lifetime daily cigarette smoking and significantly greater hazardous or harmful alcohol use than participants with no panic history. Surprisingly, among panickers, panic attack variables did not differentiate smokers from nonsmokers, nor did it differentially relate to problematic drinking. These data illuminate the complex relationship between panic attacks and smoking and drinking behaviors.

In the sixth article, Abrams et al. (in press) examined panic-relevant cognitive processes among heavy smokers and nonsmokers. Participants underwent a 5-minute carbon dioxide rebreathing challenge. Results are consistent with a model predicting that smokers with predisposing risk factors (high AS and high suffocation fear) misappraise bodily sensations and experience panicky symptoms. These findings highlight cognitive vulnerabilities that may place smokers at elevated risk for developing panic disorder and hence may be potential targets for intervention.

In the final article, Blalock et al. (in press) explored the association between psychiatric disorders, including anxiety psychopathology, and smoking cessation among a large sample of cancer patients enrolled in a smoking cessation program. Somewhat surprisingly, there were no differences in abstinence rates between patients with anxiety disorders and those with no psychiatric disorders at the end of treatment or the follow-up assessment. However, patients with major depression or alcohol abuse had lower cessation rates than persons with no psychiatric illness. These data suggest that although anxiety disorders often co-occur with smoking, there may be a need to integrate knowledge about other co-occurring psychiatric conditions when explicating their role in cessation for cancer patients.

The studies presented in this special series represent various empirical strategies that show promise in furthering understanding of the nature of the relationships between particular types of anxiety with specific patterns of substance use and use-related problems. When considered together, results from these studies suggest that there is no “one-size-fits-all” explanation of the relationship between anxiety and anxiety-related processes and substance use and use-related problems. Rather, these studies highlight the need to continue to work to delineate the specific relationships between particular types of anxiety and substance use to continue to refine theoretical models of these relationships that could guide work aimed at preventing and treating these conditions. Of course, much more work is needed for a comprehensive understanding of these relationships and the ways in which such an understanding can inform clinical efforts, but it is our hope that the studies presented in this series will inspire and inform future clinical and empirical work on the assessment, treatment, and prevention of these prevalent and impairing conditions.

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